

CLAIMS

1. An electronic device using a fuel cell as a power supply, comprising:

voltage detection means for detecting the voltage generated by said fuel cell;

residual fuel amount detection means for detecting the residual amount of fuel in said fuel cell;

oxidizing agent concentration detection means for detecting the concentration of the oxidizing agent in said fuel cell;

judgment means for judging the state of said fuel cell on the basis of the detection results of said voltage detection means, said residual fuel amount detection means and said oxidizing agent concentration detection means; and

display means for displaying the state of said fuel cell judged by said judgment means.

2. The electronic device according to claim 1, characterized in that said judgment means judge whether or not said voltage detected by said voltage detection means is smaller than a specified voltage reference value, and in cases where it is judged by said judgment means that said voltage is greater than said voltage reference value, said display means display that the state of said fuel cell is normal.

3. The electronic device according to claim 2, characterized in that in cases where it is judged by said

judgment means that said voltage is greater than said voltage reference value, said display means display that the state of said fuel cell is normal using a display corresponding to the amount of time left on said fuel cell.

4. The electronic device according to claim 2, characterized in that said judgment means further judge whether or not said oxidizing agent concentration detected by said oxidizing agent concentration detection means is greater than a specified oxidizing agent concentration reference value, and said display means display that said oxidizing agent is insufficient in cases where it is judged by said judgment means that said voltage is smaller than said voltage reference value and that said oxidizing agent concentration is smaller than said oxidizing agent concentration reference value, and display that the state of said fuel cell is abnormal in cases where it is judged by said judgment means that said voltage is smaller than said voltage reference value and that said oxidizing agent concentration is greater than said oxidizing agent concentration reference value.

5. The electronic device according to claim 4, characterized in that in cases where it is judged by said judgment means that said oxidizing agent concentration is smaller than said oxidizing agent concentration reference value, said display means display that said oxidizing agent is

insufficient using a display corresponding to a frame count of said electronic device.

6. The electronic device according to claim 4, characterized in that in cases where it is judged by said judgment means that said oxidizing agent concentration is greater than said oxidizing agent concentration reference value, said display means display that the state of said fuel cell is abnormal by using a display corresponding to the amount of time left on said fuel cell and a display corresponding to a frame count of said electronic device, and also causing these displays to flash.

7. The electronic device according to claim 1, characterized in that said judgment means judge whether or not the residual amount of said fuel detected by said residual fuel amount detection means is greater than a specified fuel reference value, and in cases where it is judged by said judgment means that said residual fuel amount is smaller than said fuel reference value, said display means display that the residual fuel amount in said fuel cell is insufficient.

8. The electronic device according to claim 7, wherein in cases where it is judged by said judgment means that said residual fuel amount is smaller than said fuel reference value, said display means display that said residual fuel amount is insufficient using a display corresponding to the amount of time left on said fuel cell.

9. An operating control method for an electronic device using a fuel cell as a power supply, comprising:

a voltage detection step in which the voltage generated by said fuel cell is detected;

a residual fuel amount detection step in which the residual fuel amount in said fuel cell is detected;

an oxidizing agent concentration detection step in which the oxidizing agent concentration in said fuel cell is detected;

a judgment step in which the state of said fuel cell is judged on the basis of the detection results of the processing of said voltage detection step, the processing of said residual fuel amount detection step, and the processing of said oxidizing agent concentration detection step; and

a display control step in which the display of the state of said fuel cell judged by the processing of said judgment step is controlled.

10. An electronic device using a fuel cell as a power supply, comprising:

voltage detection means for detecting the voltage generated by said fuel cell;

residual fuel amount detection means for detecting the residual amount of fuel in said fuel cell;

oxidizing agent concentration detection means for detecting the concentration of the oxidizing agent in said fuel cell;

judgment means for judging the state of said fuel cell on the basis of the detection results of said voltage detection means, said residual fuel amount detection means, or said oxidizing agent concentration detection means; and

oxidizing agent replenishment means for replenishing said oxidizing agent on the basis of the judgment results of said judgment means in order to increase said oxidizing agent concentration.

11. The electronic device according to claim 10, characterized in that in cases where it is judged by said judgment means that said oxidizing agent concentration is smaller than a specified oxidizing agent concentration reference value, said oxidizing agent replenishment means replenish said oxidizing agent so that said oxidizing agent concentration is increased.

12. The electronic device according to claim 10, further comprising control means for controlling the initiation of the replenishment of the oxidizing agent, characterized in that in cases where it is judged by said judgment means that said oxidizing agent concentration is smaller than a specified oxidizing agent concentration reference value, and a control of initiating the replenishment of said oxidizing agent is

performed by said control means, said oxidizing agent replenishment means replenish said oxidizing agent so that said oxidizing agent concentration is increased.

13. The electronic device according to claim 10, characterized in that said judgment means judge whether or not said voltage detected by said voltage detection means is smaller than a specified voltage reference value, and judge whether or not said oxidizing agent concentration detected by said oxidizing agent concentration detection means is greater than a specified oxidizing agent concentration reference value, and said judgment means judge that said oxidizing agent concentration is in a low state in cases where it is judged that said voltage is smaller than said voltage reference value, and that said oxidizing agent concentration is smaller than said oxidizing agent concentration reference value.

14. An operating control method for an electronic device

using a fuel cell as a power supply, comprising:

a voltage detection step in which the voltage generated by said fuel cell is detected;

a residual fuel amount detection step in which the residual fuel amount in said fuel cell is detected;

an oxidizing agent concentration detection step in which the oxidizing agent concentration in said fuel cell is detected;

a judgment step in which the state of said fuel cell is judged on the basis of the detection results of the processing of said voltage detection step, the processing of said residual fuel amount detection step, or the processing of said oxidizing agent concentration detection step; and

an oxidizing agent replenishment step in which said oxidizing agent is replenished on the basis of the judgment results obtained by the processing of said judgment step in order to increase said oxidizing agent concentration.

15. An electronic device using a fuel cell as a power supply, comprising:

voltage detection means for detecting the voltage generated by said fuel cell;

residual fuel amount detection means for detecting the residual amount of fuel in said fuel cell;

oxidizing agent concentration detection means for detecting the concentration of the oxidizing agent in said fuel cell;

judgment means for judging the state of said fuel cell on the basis of the detection results of said voltage detection means, said residual fuel amount detection means or said oxidizing agent concentration detection means; and

oxidizing agent replenishment means for replenishing said oxidizing agent on the basis of the judgment results of

said judgment means in order to increase said oxidizing agent concentration;

characterized in that said oxidizing agent replenishment means constantly replenish air as said oxidizing agent via an oxidizing agent permeable membrane from air holes formed in said electronic device regardless of the judgment results of said judgment means.

16. The electronic device according claim 15, characterized in that said air holes are holes formed in a frame used to attach a speaker.

17. An operating control method for an electronic device using a fuel cell as a power supply, comprising:

a voltage detection step in which the voltage generated by said fuel cell is detected;

a residual fuel amount detection step in which the residual fuel amount in said fuel cell is detected;

an oxidizing agent concentration detection step in which the oxidizing agent concentration in said fuel cell is detected;

a judgment step in which the state of said fuel cell is judged on the basis of the detection results of the processing of said voltage detection step, the processing of said residual fuel amount detection step, or the processing of said oxidizing agent concentration detection step; and

an oxidizing agent replenishment step in which said oxidizing agent is replenished on the basis of the judgment results obtained by the processing of said judgment step in order to increase said oxidizing agent concentration;

characterized in that in the processing of said oxidizing agent replenishment step, air is constantly replenished as said oxidizing agent via an oxidizing agent permeable membrane from air holes formed in said electronic device regardless of said judgment results.